

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

LISTING OF CLAIMS

Claim 1 (cancelled).

Claim 2 (cancelled).

Claim 3 (cancelled).

Claim 4 (Currently Amended) A threading tap for cutting threads in blind holes, comprising an elongated body defining an axis of rotation and including axial front and rear end regions, the front end region including a threading portion having teeth defining a helical thread-cutting structure, and at least one helical flute formed in an outer periphery of the body and interrupting the thread-cutting structure, the threaded portion being coated with a PVD coating and the at least one flute comprising interconnected flanks having exposed surfaces that are steam tempered wherein a helix angle of the flute relative to the axis is 48° but not coated with the said PVD coating.

Claim 5 (cancelled).

Claim 6 (Currently Amended) A threading tap for cutting threads in blind holes of claim 4, comprising an elongated body defining an axis of rotation and including axial front and rear end regions, the front end region including a threading portion having teeth defining a helical thread-cutting structure, and at least one helical flute formed in an outer periphery of the body and interrupting the thread-cutting structure, the at least one flute comprising

~~interconnected flanks having exposed surfaces that are steam tempered~~ wherein the thread-cutting structure is chamfered at a rear portion thereof and wherein the chamfered portion forms an angle in the range of 8°-11° relative to the axis.

Claim 7 (cancelled).

Claim 8 (cancelled).

Claim 9 (cancelled).

Claim 10 (cancelled).

Claim 11 (cancelled).

Claim 12 (cancelled)

Claim 13 (cancelled).

Claim 14 (cancelled).

Claim 15 (cancelled).

Claim 16 (cancelled)

Claim 17 (cancelled).

Claim 18 (cancelled).

Claim 19 (cancelled)

Claim 20 (cancelled).

Claim 21 (Currently Amended) A method of manufacturing a threading tap suitable for cutting threads in blind holes, including the following steps:

- A) selecting a blank comprising an elongated body defining an axis of rotation and including axial front and rear regions;
- B) forming at least one helical flute in an outer periphery of the body, the at least one flute comprising interconnected flanks having exposed surfaces; and
- C) steam tempering only the exposed surfaces of the flute and wherein the at least one flute is formed such that the helix angle of the flute is 48°.

Claim 22 (cancelled).

Claim 23 (Currently Amended) A method of manufacturing a threading tap suitable for cutting threads in blind holes, including the following steps:

- A) selecting a blank comprising an elongated body defining an axis of rotation and including axial front and rear regions;
- B) forming at least one helical flute in an outer periphery of the body, the at least one flute comprising interconnected flanks having exposed surfaces;
- C) forming a threading portion including threads and teeth;
- D) coating the said threads and teeth with a PVD coating; and

E) steam tempering the exposed surfaces and wherein the thread-cutting structure has a chamfer at a rear section thereof, a taper angle of the chamfer being between 8° and 11° of the flute.

Claim 24 (cancelled).

Claim 25 (cancelled).

Claim 26 (cancelled)

Claim 27 (cancelled).

Claim 28 (Currently Amended) A method of manufacturing a threading tap suitable for cutting threads in blind holes, including the following steps:

- A) selecting a blank comprising an elongated body defining an axis of rotation and including axial front and rear regions;
- B) forming at least one helical flute in an outer periphery of the body, the at least one flute comprising interconnected flanks having exposed surfaces;
- C) forming a threading portion including threads and teeth;
- D) coating the said threads with a PVD coating; and
- E) steam tempering the exposed surfaces of the flute, wherein the steam tempering is performed at a temperature between 500°C and 540°C.

Claim 29 (Currently Amended) A method of manufacturing a threading tap suitable for cutting threads in blind holes, including the following steps:

- A) selecting a blank comprising an elongated body defining an axis of rotation and including axial front and rear regions;
- B) forming at least one helical flute in an outer periphery of the body, the at least one flute comprising interconnected flanks having exposed surfaces;
- C) forming a threading portion including threads and teeth;
- D) coating the said threads with a PVD coating; and
- E) steam tempering the exposed surfaces of the flute, wherein the steam tempering is performed with nitrogen (N₂) and carbon dioxide (CO₂).

Claim 30 (Currently Amended) A method of manufacturing a threading tap suitable for cutting threads in blind holes, including the following steps:

- A) selecting a blank comprising an elongated body defining an axis of rotation and including axial front and rear regions;
- B) forming at least one helical flute in an outer periphery of the body, the at least one flute comprising interconnected flanks having exposed surfaces; **and**
- C) forming a threading portion including threads and teeth;
- D) coating the said threads with a PVD coating; and

E) steam tempering the exposed surfaces of the flute, wherein the steam tempering is performed with nitrogen (N₂) and water steam (H₂O).

Claim 31 (New) The threading tap of claim 4 wherein the PVD coating is of TCN, TiN, TiAlN, TiAlCN, CrN or a multilayer coating.

Claim 32 (New) The threading tap of claim 6 wherein the PVD coating is of TCN, TiN, TiAlN, TiAlCN, CrN or a multilayer coating.

Claim 33 (New) The method of claim 21 wherein said PVD coating is of TCN, TiN, TiAlN, TiAlCN, CrN or a multilayer coating.

Claim 34 (New) The method of claim 23 wherein said PVD coating is of TCN, TiN, TiAlN, TiAlCN, CrN or a multilayer coating.

Claim 35 (New) The method of claim 21 wherein the entire threading tap is coated by PVD, the flutes are ground to remove the PVD coating and the tap is then steam tempered to steam temper the flutes.

Claim 36 (New) The method of claim 21 wherein the entire threading tap is steam tempered, the threading portion is ground to remove the steam tempering and the tap is then subjected to PVD to coat only the ground portions.

Claim 37 (New) The threading tap of claim 4 wherein a helix angle of the tap is 48°.